Opcode

From Wikipedia, the free encyclopedia.
Jump to: navigation, search

This article needs to be **cleaned up** to conform to a higher standard of quality.
This article has been tagged since June 2005.
See How to Edit and Style and How-to for help, or this article's talk page.

Opcode stands for **Op**eration **Code**. Opcodes operate on registers, values in memory, values stored on the stack, I/O ports, the bus, etc. They are used to perform arithmetic operations and move and change values. Operands are the things that opcodes operate on. Microprocessors perform operations using binary bits. A bit is either on (1) or off (0). Eight bits is equal to a byte (on most modern processors), and two bytes is equal to a word.

Another term for opcodes is Byte code. Byte code is used especially to describe higher level constructs as is the case with the Java Language's JVM (Java Virtual Machine). For instance, byte code 1A might be the "iconst_2" instruction which pushes the number 2 on the stack. This is a slightly higher level of abstraction than opcodes, which might need to load the number 2 into a register, and then push the register's value on the stack.

As an example let's design a crude 4-bit microprocessor.

- First: All registers, ALUs, counters, and addresses must have a data path of 4-bits.
- Second: All of our instructions must fit in a 3-bit address.

Below is a diagram of the opcodes of the micorprocessor:

op-codes	mnemonic	operations explanation
000	ADD	add A to B and store in b
001	mov	move A to B and store in b
010	Jmp	jump value in A
011	xorA	xor A with next op-code store in b
100	clrA	clear A
101	return	return to pointer
110	counter	counter value
111	end	end program

When the op-code values are active at the decoders logic inputs, the desired operations are performed. Each of these operations is assigned a numeric code, this is the **opcode**. To assist in the use of these numeric codes, mnemonics are used as textual abbreviations. It's much easier to remember ADD than 05, for example.

See also

- Machine language

Retrieved from "http://en.wikipedia.org/wiki/Opcode"

Categories: Cleanup from June 2005 | Computing

- This page was last modified 09:21, 25 August 2005.
- All text is available under the terms of the GNU Free Documentation License (see **Copyrights** for details).

Web Images Groups News Froogle Local^{New!} **more »**

interprocess communication [Search] Advanced Search
Preferences

Web Results **1** - **10** of about **1,840,000** for **interprocess communication**. (**0.21** seconds)

Beej's Guide to Unix IPC
Beej's Guide to Unix **Interprocess Communication**. Version 0.9.3 (14-May-1997) [http://www.ecst.csuchico.edu/~beej/guide/ipc/] ...
www.ecst.csuchico.edu/~beej/guide/ipc/ - 5k - Cached - Similar pages

An Advanced 4.4BSD **Interprocess Communication** Tutorial
This document provides an introduction to the **interprocess communication** facilities ... The BSD **interprocess communication** facilities have become a defacto ...
www-users.cs.umn.edu/~bentlema/unix/advipc/ipc.html - 122k - Cached - Similar pages

> Berkeley UNIX System Calls and **Interprocess Communication**
> The purpose of this paper is to discuss **interprocess communication** in the context ... The UNIX domain only allows **interprocess communication** for processes ...
> www-users.cs.umn.edu/~bentlema/ unix/syscalls_and_ipc.html - 48k - Cached - Similar pages

Interprocess Communication (IPC), Pipes
Interprocess Communication (IPC), Pipes. ... We use fprintf() and fscanf() to **communicate** with the pipe's stream. pipe() -- Low level Piping ...
www.cs.cf.ac.uk/Dave/C/node23.html - 10k - Cached - Similar pages

Interprocess Communication
All **interprocess** and device **communication** is provided in the caching model by implementing it as an extension of the virtual memory system using ...
www-dsg.stanford.edu/papers/ cachekernel/subsection3_3_2.html - 8k - Cached - Similar pages

Secure **interprocess communication**
Secure **interprocess communication**. UNIX kernel designers should add a function #include <sys/types.h> #include <unistd.h> int getpeereid(int s,uid_t *u ...
cr.yp.to/docs/secureipc.html - 5k - Oct 15, 2005 - Cached - Similar pages

Inter-Process Communication Tutorial
Inter Process Communication is concerned with the efficient sequencing of processes. Navigational Tools Module Information ...
www.cne.gmu.edu/modules/ipc/ - 3k - Cached - Similar pages

Unix Multi-Process Programming and **Inter-Process Communications** (IPC)
Unix Multi-Process Programming and **Inter-Process Communications** (IPC)
users.actcom.co.il/~choo/lupg/ tutorials/multi-process/multi-process.html - 96k - Cached - Similar pages

What is **interprocess communication** (IPC)? - A Word Definition From ...
This page describes the term **interprocess communication** (IPC) and lists other pages on the Web where you can find additional information.
www.webopedia.com/TERM/I/ **interprocess_communication**_IPC.html - 40k - Oct 15, 2005 - Cached - Similar pages

Interprocess Communication in 9th Edition Unix
Interprocess Communication in the Ninth Edition Unix System. David L. Presotto Dennis M. Ritchie AT&T Bell Laboratories, Murray Hill, New Jersey 07974, USA ...
cm.bell-labs.com/cm/cs/who/dmr/ipcpaper.html - 43k - Cached - Similar pages

Gooooooooogle ▶